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and the administrative measures of our government, we find that most of them deal directly or indirectly with the economic life of the nation, and that they are consciously or unconsciously the results of efforts to express the root principles of economic science.

Our government is the government of a democracy, and we should keep in mind that we are training future voters and public officials. Therefore, elementary economics must be primarily a course for citizenship.

SIMON LITMAN

THE UNIVERSITY OF ILLINOIS

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## METHODS OF TEACHING ELEMENTARY ECONOMICS AT THE UNIVERSITY OF MICHIGAN

My paper is to be an explanation of the methods used at Michigan rather than a discussion of methods in general. However, I shall not confine myself strictly to a statement of the facts, but shall discuss the various elements of method from the standpoint of what we are trying to do as well as of what we are actually doing; for I scarcely need say that we are a long way short of having worked out a set of methods which satisfies us, though we feel that we have made some progress toward this goal.

As the topic assigned me has to do with method, it is obviously not my business to treat objects which can properly be aimed at in a course in elementary economics. Nevertheless, it would scarcely be possible to explain satisfactorily the methods we have thought best to employ without first making clear the precise aims which we have set ourselves. To this task, therefore, we must give a few moments' attention.

In the first place, we conceive it to be our duty to insure, in so far as this is possible, that our students carry away with them a body of economic doctrine which has a high degree of definiteness, which is held with a firm and certain grasp, and which is, in some measure at least, available. Let me emphasize these particulars a little. We consider it our duty to insure, in so far as this is possible, the results named: that is, we do not accept the

not uncommon interpretation of the professor's duty—that he has done enough when he has given the student opportunity. In our opinion, he has fallen far short of his obligations unless he has done his best to make certain that the student improves the opportunity.

But, again, what we try to insure is that the student carries away a body of economic doctrine. He is getting ready for the more specific courses which the later years offer, or in any case for the practical duties of citizenship; and he should be thoroughly indoctrinated in fundamentals. Not some vague notions; not some insight into method and spirit; not some sentiments, liberal or illiberal; but a body of knowledge, is what we consider it our duty to demand.

Still again, we feel that the body of doctrine which the student is expected to carry away should have a high degree of definiteness. Personally, after teaching political economy for twenty-five years, I have become very impatient with the vagueness which commonly characterizes the economic ideas of even our graduate students. So much importance do I attach to this quality of definiteness that for its sake I am willing to sacrifice something of precision—something of the fullest measure of truth. If erroneous doctrines are sharply defined and clearly apprehended, there is always some chance of successfully combating them; while it is useless to waste one's time on the man who does not really know what he thinks.

But we also conceive it to be our business to try to insure that our students come through with a firm and certain grasp upon their knowledge. It seems to us important, not only that their ideas of economic truths should be definite, but also that those truths should be mastered; that the student's hold on them should be so firm and certain that he will be prepared to reproduce, illustrate, and defend them with reasonable facility and effectiveness.

The third element which we emphasize as an important characteristic of the student's economic knowledge, I have called availability. I wish him to leave us with at least some capacity to make an intelligent application of principles to concrete cases.

Such then is our primary duty, as we understand it, to insure, as far as possible, that the student goes away with a fund of knowledge which is definite, certain, and available.

A second duty which we conceive to be laid upon us, as responsible for the elementary course in economics, is to furnish a course which can fairly claim to supply high-grade collegiate discipline. Although a classical student myself, I have never accepted the idea that there is no way to get a first-class education except by spending six or seven years in the study of Latin and Greek. Rather, I have always sympathized with the doctrine that almost any study, if rightly pursued, will supply adequate opportunity for the discipline and development of the mind. In particular, I have always believed that history, economics, modern languages, and literature are in different ways well fitted to accomplish this object. But, I have also held that history, economics, literature, etc., cannot reasonably claim the right to be chosen as substitutes for the old studies unless the men who teach them settle down to work out systems of instruction which have the disciplinary capabilities possessed by the methods which are employed in teaching the old studies. This task, no doubt, is more difficult in literature than it is in history or economics, more difficult in history than it is in economics. But I believe it can be accomplished in all these fields, if we devote to it sufficient industry, ingenuity, and enthusiasm. Certainly, we in economics have no excuse for contenting ourselves with anything but the highest success at this point. The nature of our subject is such that it lends itself with the utmost readiness to a course of training which tends to make a man acute and subtle in analysis, logical in reasoning, and clear and effective in expression.

The preceding remarks have brought out the primary results which we aim to secure in our course in elementary economics. I am going to add one other point on which we lay considerable emphasis, though it cannot be said to be in any proper sense co-ordinate with the objects already set forth. This special aim is to restore to an important place in economic instruction certain elementary principles, almost truisms, on which the early

economists laid much stress, but which have latterly fallen into the background. Thus, we set forth in definite form and with ample illustration what I call Say's Law; that is, the principle that products constitute at once the demand for goods and the supply of goods, and so, if we assume production to be directed in accord with individual wants, supply and demand must necessarily be equal. Another closely allied principle on which we lay a good deal of emphasis, is what I call the principle of Reciprocity—the principle that trade between communities is necessarily reciprocal, that exports and imports must tend to be equal. So, also, we set forth quite definitely and emphatically certain simple propositions with respect to money which were brought out by Adam Smith in his critique of the mercantile theory. Now, I am well aware that all these propositions are in a sense truisms. The fact, nevertheless, remains that certain fallacies which these propositions are designed to meet dominate in no small degree the minds of nine-tenths of our fellow-citizens; that they constantly appear and reappear in newspapers and magazines; that they often determine the opinions of statesmen; and that occasionally they are traceable, though usually in obscure form, in the writings of professional economists. This being the case, it seems to me the duty of a teacher of economics to see that the principles involved are thoroughly mastered—above all that they are applied with such frequency, and in such a variety of connections that, as respects these particular matters anyhow, the student will have some chance of walking secure amid the pitfalls which will constantly be set for him in the spoken and written discussions of the day.

So much for the aims which we believe a teacher of economics should set himself. Let us now undertake our more particular task, the discussion of the methods which seem to us best adapted to realize these aims. If we attempt a rough summary of the pedagogical processes necessary to get the sort of results proposed, we might offer the following as fairly covering the case: (1) the effective presentation of facts and principles; (2) the personal discussion of these facts and principles with the student in order to clear up difficulties, insure comprehen-

sion, and so on; (3) the drilling of the student in reproducing and applying economic principles; and (4) the testing of the student as to the correctness, fulness, and adequacy of his knowledge and as to his capacity to apply it. Asking ourselves, now, by what instruments and methods these several tasks are to be performed, we remark first on those involved in presentation. Here, we believe the lecture has still a place, though by no means the chief one. It will always serve to open up new subjects effectively, to keep the student from a too narrow outlook, to assist in clearing up topics of special difficulty, and so on. But, while the lecture has a place in presentation, it must yield in importance to a textbook or printed outline and readings. Not to emphasize economy of the student's time and strength, the printed page is vastly superior as respects efficiency in a subject which like ours can be mastered only by patiently and thoroughly thinking oneself through the analyses and arguments necessary to presentation. Suitable printed matter, therefore, must be recognized as indispensable.

Passing on to the second process, personal discussion with the student, our chief dependence must be upon exercises, variously called quizzes, recitations, or conferences, where not more than fifteen or twenty persons are present, so that a large amount of attention can be given to each. With us each student has three such exercises every week; and I am not satisfied that four would be too many.<sup>1</sup> Besides the quiz, my assistants usually announce two or three hours each week for consultation, at which hours students desiring to do so can get more strictly individual help in clearing up difficulties.

The third process, drilling the student in reproducing and applying his knowledge, brings us to one of the elements in our system of instruction on which we probably put more dependence than on any other single feature. I mean the illustrative problem; i. e., an example in which appears a concrete application of some economic truth. So much importance do we attach to this instrument that it is scarcely an exaggeration to say that

<sup>1</sup>This procedure is continued through substantially the whole course, which runs for about twenty-two weeks.

our whole course is built up around problems. These problems take a variety of forms. Very often they consist of quotations from newspapers, speeches, magazines, or books, containing economic fallacies which the student is asked to point out and explain. In many other cases they are arithmetical problems in rent, market price, or normal price, which, though involving no mathematical difficulties, cannot be solved unless the student has a clear knowledge of principles.<sup>2</sup> The part played by these problems with us is analogous to that which they play in a course in mathematics. In solving them, the student for the first time comes to a real comprehension of the principles involved; he gets, for the first time, such a hold on those principles that he can be said really to know them; and he acquires in this way, and in this way only, facility in giving the principle proper application.

The above remarks make it clear that the so-called problem is the device on which we place our chief dependence for giving our students drill in the study and application of principles. In using this device, we, of course, do much of the work through one of the instrumentalities already commented upon, viz., the quiz or recitation. In addition we require a good deal of written work in connection with these problems in the shape of reports prepared outside on a number of such problems which have been assigned a day or two in advance. Of such exercises, we have an average of almost two each week. This plan of requiring the solution to be reported in writing seems to be specially desirable in that it insures better preparation and greater precision in reasoning and statement.

The fourth process involved in carrying out our task is testing the student's knowledge. Here, again, the problem plays a large part. Our examination questions consist largely of problems, newly prepared for each test, but similar to those on which the students have already been drilled. These, we think, furnish the very best test of the student's knowledge, since he

<sup>2</sup> This being a case where example is much more helpful than explanation, I have appended to this paper a number of specimen problems which will represent some of the more important varieties.

can neither crib nor cram for them. However fully he may have memorized formulae during the three or four days preceding the examination, he is helpless in the presence of a newly devised problem, especially under the nervous stress of examination, unless he has been doing his work faithfully and thoroughly throughout the semester.

I have just laid stress on the use of the problem as a method of making written tests or examinations effective. Of such tests, we usually have two in the course of the semester, and one at the close. The final one is in the main decisive of the student's fate; though a few who fall below passing mark are passed on the strength of exceptionally good current work, and a few who go above the mark are shut out because of exceptionally bad current work. We usually find that about 45 out of 175 fail for one reason or another. Our passing mark is commonly about 55 on a scale of 100.

Summarizing this account of our procedure, we have the lecture, the printed outline, the frequent quiz, the problem, the written report, and the written test. Of these various elements, I shall now select two for further comment, viz., the problem, and the printed outline or textbook. As already indicated, the chief function of the problem in our system is to put the student where he really understands, really knows, and is really able to apply economic truths. But it will help to make this function stand out, if we contrast with it two or three uses of the problem which we might make but do not, save to a very slight extent. First, we employ this device very little as an instrument for teaching economics by the inductive method, i. e., as an instrument through which the student is helped to discover economic truths for himself. I do not say that this is never desirable; in fact we follow this plan to a limited extent; but I am not in favor of any extensive resort to such a method, and in any case it is not the chief use to which we are putting the problem.

Again, we do not consider the primary function of the problem to be the extending of the student's knowledge beyond the material covered in the lectures and textbook. In general,



we assume that the stuff which we furnish the student is sufficient to keep him occupied, and that the problem is chiefly useful in helping him to master that stuff.

This reiteration makes it hardly necessary to add—but I will add it for the sake of emphasis—that we do not to any considerable extent employ the problem as a means for securing outside reading on the student's part. In general, I do not favor a large amount of outside reading in connection with the elementary course; and particularly I object to the sort which presents other points of view. It seems to me sound policy, in beginning a difficult subject, to start with a dogmatic system, and later bring in the needed qualifications, amendments, varying points of view, and so on.

The above explanation of the function which the problem plays in our system will suggest some of the most important characteristics which it should possess. (1) It should be strictly germane to the text, or matter to be mastered, and should bring out the really leading points of that matter. (2) Especially in the earlier stages of the course, it should isolate the point to be made rather sharply—free it from all ambiguities—so that the student will have little excuse for commenting upon the wrong matter. In our experience at Michigan, we have found it necessary to alter slightly many quotations involving economic fallacies, in order to secure satisfactory results from the average student. Otherwise he is very apt to miss the point. (3) On the other hand, problems should not be made too simple. Those given in some books which we have tried to make use of, have seemed to me faulty in containing so many leading questions that no one with ordinary capacity could fail to get the answer, even though he gave no serious study to the matter. If the point to be made is extremely simple, and yet so frequently overlooked as to make emphasizing it important, we should take some pains to hide it in more or less complicated sentences such as those which are usually found in newspapers. (4) The problems should, if possible, cover every phase of the subject. This is particularly important in enabling us to depend almost entirely on problems in making up sets of questions for the

final examination. (5) As the course progresses, problems should be set, the especial object of which is to bring out the complexity of the questions which arise in real life, and to show that a particular policy may be justified from a larger standpoint, though most of the economic arguments commonly given for it are ridiculous. In short, some problems should be given as an antidote to the tendency toward dogmatism and doctrinarianism which naturally shows itself in connection with any really thorough mastery of our subject. I shall have to plead guilty to the charge of having hitherto failed to supply problems of this sort in sufficient numbers. (6) If one uses a textbook containing an outfit of problems, he should from time to time have leaflets printed containing miscellaneous problems which are thoroughly up-to-date—which, if possible, connect themselves with current discussions.

I have commented on the characteristics which seem necessary to a good set of problems. Our methods of using these problems through the quiz, the written report, and the written test, have already been noted. But I wish to add a few words emphasizing the part played by these problems in the regular quiz. I fancy it is no exaggeration to say that two-thirds of the time given to the recitation exercises is occupied with the discussion of problems. That is, we spend comparatively little time calling directly for a reproduction of the matter given in the lectures and textbook. We rather depend on getting this result accomplished as an incident to the solution and discussion of problems. The chief advantage of this procedure we have already brought out in explaining that the study of the problem is the most efficient means for securing the comprehension and mastery of principles, and power in applying them. But we have also been much pleased to find in our experience that using the problem as the basis of the regular quiz work very greatly lightens that part of our task, keeping everybody's interest at a high pitch, and supplying for the hour a programme which is followed with a minimum of trouble to the teacher and a maximum of advantage to the student.

I have discussed at some length our use of the problem:

I must now say a word with respect to the sort of outline or text which seems to us desirable. In a general way, my notion of what we want can be fairly covered by saying that we should once for all relinquish the literary form, and frankly adopt that already in use among the more exact sciences, such as mathematics and physics. Doubtless political economy is now, and always will be, a less exact science than those named; but this does not seem to me to furnish a reason why the man who is expounding that subject should relinquish all the advantages of a system which by its sharp and formal separating of principles, proofs, illustrations, and applications, almost insures clearness and correctness in apprehension. Granted that we must carefully qualify our statement of principles; that we must note the frequent occurrence of exceptions; that we must warn the student against over-hasty applications—granting all this, it forms no reason for using a method of presentation which smoothly blends, in one highly confusing whole, principles, proofs, illustrations, etc. There is some analogy between the relation of Greek grammar to Latin grammar and that of economics to physics. That is, Greek is much less conformable to rule in respect to both etymology and syntax. But a text on Greek grammar is, in general form, just like one on Latin grammar; and a text on economics ought, in general form, to be like one in physics. Here, as in many other matters, economics is too much under the influence of its beginnings; it is still too much a *mélange* of metaphysics, literature, philosophy, and common-sense; it is not yet sufficiently dominated by the scientific attitude of mind.

With us at Michigan, the sense of our need for a different type of textbook grew out of our tentative beginnings in the use of problems. When such problems were presented to the student who had derived his economic pabulum from the conventional textbook, they found him quite unprepared to see at all clearly what was wanted, and equally unprepared to bring to bear on the point when seen, principles, clearly and definitely conceived. Consequently, it seemed imperatively necessary that we should get into the hands of our students, on some topics

anyhow, printed matter which covered those topics in a method and spirit quite different from the conventional one. We began, therefore, by printing and distributing four-page leaflets on certain specially difficult subjects when those subjects were first being brought under discussion. From these beginnings we worked both forward and backward, adding a few matters each year, till at present we cover in some fashion most, though not all, of the field. Much of this matter is crude; inconsistencies are numerous; some topics are quite unduly elaborated, others are not a little neglected, and so on; but up to date we have no reason to change our opinion that this is, in general, the best method of presentation.

The details of such a method of presentation are best brought out by examination of the material itself.<sup>3</sup> Roughly described, the procedure for much of the work involves: first, an introductory paragraph, suggesting the topic to be considered; second, the formal statement in italics of the principle involved; third, the argument for the principle, with illustrations; and fourth, illustrative problems, five or six in number, in which the principle is applied. Variations from this procedure are occasionally introduced. Thus, in some cases, after stating the general problem we follow with a careful analysis of the matter in hand of such a character that it progressively leads up to the principle, while at the same time demonstrating it. Following such an analysis, the principle is formally stated without argument, after which illustrative problems are given in the usual way. I am quite disposed to extend the use of this procedure. As another variation, we occasionally postpone the introduction of the illustrative problems until two or three principles have been brought out.

It is hardly necessary to add in this connection, that we improve the opportunity furnished by the practice of printing our own outlines, to see that those most elementary propositions with respect to money and trade, which most textbooks of our day neglect, are presented in definite form with ample ex-

<sup>3</sup> Any person desiring to see specimen pages of these outlines may get them by writing to me at Ann Arbor, Mich.

planations and illustrations, and are thoroughly fixed in the student's mind by the requirement that he work out numerous problems in which they are applied.

Another feature of our outlines to which I attach some importance, though I am less confident of its usefulness than of that of the features already considered, is the fact that we traverse the whole subject, in a way, three successive times. Thus, we devote Part I to a preliminary survey of the present economic order, bringing out its most salient features. It is my present intention to elaborate this somewhat, expanding it to perhaps three times its present length. Our Part II constitutes the principal part of the work, being an outline of leading facts and principles. This contains the most systematic presentation of our subject; but it omits some minor topics altogether, and slurs many others. Part III, finally, goes back to the beginning, picks up elements passed by in the earlier parts, and discusses somewhat more thoroughly the topics which were only superficially treated in Part II. My reasons for trying this general plan are: (1) It seems most likely to send the student away with a good general view of the science; and (2) a superficial knowledge of the whole field is a prerequisite for intelligently studying particular topics in a more thorough way.

At Michigan we intend to pursue the present plan, revising, elaborating, and harmonizing the outlines till they are reasonably fit for publication. I have had some idea that if the plan of a text along these lines were approved by several other teachers of the subject, we might perhaps work out a sort of co-operative textbook in which we should have the benefit of the ideas of different men. Such a text might be issued in special editions for Chicago, Michigan, Illinois, etc., if our differences of opinion were enough to require different editions, and yet not so great as to destroy the common element in these different editions.

In addition to the printed outlines constructed as already indicated, we think it desirable that the student should do a limited amount of outside reading, chiefly to insure a better

understanding of the matter already presented, and partly to supply him with other points of view, to give him some taste of the best literature on the subject, and so on. To accomplish this end, nothing seems to us so suitable as a book of readings. We have a small one of our own, which meets our most pressing needs, but which surely ought to be extended to cover other matters, while one or two readings which have proved less helpful than was anticipated should be thrown out.

A few words, now, as to the organization of the teaching force which has the work to do. At Michigan the course takes almost the entire time of four men—myself, two instructors, and a reader. I lecture twice a week. The two instructors conduct thirty quiz exercises each week, save that I take five of the ten sections once each week, and so get through the whole list once in two weeks. The reader goes over the written reports on problems, indicating where corrections are needed, returns them for revision, and in a second reading checks this revision. The two instructors and myself meet for about an hour once each week to plan the work of the next week, and to clear up any doubtful points in the outlines or problems. It will be seen from this that our plan involves keeping the course under the control of one man; and this policy we shall probably continue, even if we finally issue, and put in the hands of the students, what we consider a fairly satisfactory textbook.

In conclusion, allow me to say once more and emphatically that we are very far indeed from being satisfied with what we have thus far accomplished in trying to realize our ideals for Course I in economics. We think we have made some progress beyond where we were five years ago. We expect to continue the general plan now in operation—frequent quizzes in small sections, printed outlines constructed on quite formal lines, and rigid and extensive drill in the solution of problems. But in details we shall have to make numerous changes. Overstatements, understatements, inconsistencies, gaps in the matter, still larger gaps in the problems, unwarranted elaboration of relatively unimportant points—these and many other defects must be eliminated. We see ahead of us five or six years of hard

work in order to get the system in such shape that we shall no longer feel ashamed to have you visit us.

F. M. TAYLOR

THE UNIVERSITY OF MICHIGAN

# SPECIMEN PROBLEMS

"Socialism is our only possible refuge from economic chaos." Have we economic chaos at the present time?

"The great advantage of foreign trade is in furnishing a market for our surplus products which would otherwise go to waste." This surely is only a minor advantage of foreign trade. Give something better.

If the potato crop of a communistic society which had no commerce with other communities were to fall off one-half, how would they regulate the consumption of potatoes for the following year? How is it done under the present order?

"Give the farmer a parcels post to begin with. Let him send his dozen eggs or his pair of chickens direct to the man who wants to eat them, or at least to the retail merchant. Cut out the commission merchant, the wholesaler, and a few other of the city parasites that live on the farmer."—*New York Evening Journal*.

(a) Suppose yourself to be a farmer living in the neighborhood of Ann Arbor, and point out some advantages you would derive from selling your butter to the grocers and your chickens to the meat men rather than to consumers.

(b) Suppose yourself to be a fruit grower in western Michigan, dependent for your market chiefly on Chicago, and point out some disadvantages which you would suffer if you tried to sell your grapes, peaches, etc., by parcels post to the ultimate consumers in Chicago and its vicinity, rather than to commission merchants.

(c) Show that these facts are inconsistent with the notion that commission merchants, wholesalers, *et al.*, are "city parasites."

NOTE.—There is of course much to be said in favor of a parcels post; and it is always possible that the number of middlemen should become needlessly large so that some of them may fairly be viewed as parasites. But such a characterization of the class as a whole is quite illegitimate.

"Labor alone is the producer of wealth; take away labor and not all the capital in the world could produce anything."

(a) Allowing the second clause to be true as a statement of fact, does it prove the proposition contained in the first?

(b) Are there many goods which labor, working quite alone, can produce?

"In co-operative production (meaning production in which the workmen own the business) the place of the *entrepreneur* is taken by a manager elected by the workmen."—Textbook. Criticize. How is the entrepreneur constituted in co-operative production?

Josiah Wright, the wagon maker, is getting out a stoneboat ordered by Farmer Yerkes. Now, a stoneboat is undoubtedly capital (capital goods); yet Wright is not producing capital. Explain the riddle.

"Postponing consumption so that the production may be carried on in a roundabout way is the function of the capitalist."—Textbook. Explain and illustrate.

"Capital is kept up not by preservation, but by perpetual reproduction."—Mill. Explain and illustrate.

Suppose that the four banks of Ann Arbor were to be united into one and that, while each of the uniting banks employs a cashier, a teller, a bookkeeper, and a messenger, the consolidated bank were to employ a cashier, a paying-teller, a receiving-teller, a discount-clerk, a collection-clerk, a head bookkeeper, an assistant bookkeeper, and a messenger. Show that the facts as stated illustrate *two* gains of large scale industry.

A certain steam plant is evaporating 700 pounds of water per hour at a cost of 100 pounds of coal, while it could evaporate 1,225 pounds of water at a cost of 150 pounds of coal. In what stage, as respects efficiency, is it being worked? Prove.

"We pay one hundred and ten million dollars per annum for the carrying of products between this and foreign countries. Think of it. One hundred and ten million dollars in gold coin has gone out of the commerce of this country into the commerce of other countries. Can New York stand this?"—James G. Blaine in 1881.

(1) Is it likely that we permanently lost one hundred and ten million dollars in gold from our circulation because we hired foreigners to carry our goods?

(2) Is it likely that we even temporarily parted with that much gold on that account?

(3) Is it likely that as a nation we should have been richer if we had done this carrying of products for ourselves?

We buy a good deal from Brazil, but sell her little. We sell a great deal to Great Britain, but buy from her much less. Can you imagine a way in which one of these trades furnishes a medium of exchange for the other?

The *Chicago Record-Herald* for April 18, 1908, contained the report of an interview with the head of one of America's great universities, wherein various opinions and statements were attributed to King Haakon of Norway. Among these was the following: "I could black my own boots if I wished to; I have done it and therefore know how; but if I did, what would become of the people who make a living blacking boots?"

Show that, if people of leisure should generally adopt the plan of blacking their own boots, there would necessarily come into existence other opportunities of employment substantially equivalent in amount to those lost.

The following was taken from a country newspaper in 1908: "It appears to this paper that all this severe criticism . . . of Mrs. Howard Gould's requiring \$70,000 a year to pay her expenses, is quite uncalled for. What's the difference, anyway? If she and her folks have the 'dough,' let them spend



it as fast as they like. That's better than hoarding it. When the money is spent it goes to someone and gets into circulation. We people whom circumstances compel to live on 30 cents a day would be glad to see all the old millionaires spending each \$70,000 a year on himself, or ten times that amount if he wants to. The money isn't lost."

(a) State clearly what advantage the writer of the above probably imagined that the public derive from the extravagance of Mrs. Gould and other rich people.

(b) Explain the fallacy in the doctrine.

(c) Show that the last sentence of the quotation is of no significance in the matter.

"Our neglect of the South American trade is simply scandalous. We buy a large amount from Brazil every year but sell her almost nothing, leaving her markets to be gobbled up by England and other European countries. We ought to subsidize a great merchant marine running to South America, and drive Europe out of a market which is naturally ours."

Show that a very plausible argument can be made for the contention that we should be cutting off our own noses if we were to drive Europe out of the markets of South America.

"The high rate of exchange makes exporting more than usually profitable. As a result, the supply of cotton for the foreign markets . . . , the price . . . , and so exports. . . ." Fill out the blanks, applying the Law of Supply and Demand.

In the United States in 1870, gold coin was worth \$1.11 per dollar, silver coin \$1.23 per dollar, and greenbacks \$1.00 per dollar. Which, if any, must have been standard money?

In the United States in 1830, both gold and silver were freely coined at a ratio of 15 to 1, when the market ratio was 15.8 to 1.

(a) Which metal did the mint overrate? Explain carefully.

(b) Which of the two moneys, if any, must have been standard money?

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## DISCUSSION

PRESIDENT HARRY PRATT JUDSON, The University of Chicago:

Perhaps I look at some of these educational things from a rather old-fashioned point of view. These are the days of electives, when any student knows better than anybody else in the world what is best for him intellectually; and the number of things which the graduates of our modern colleges do not know is portentously large—and some of us think that that is somewhat important, also. Of course, there was a time when we thought that every educated man ought to know certain things. Perhaps we were wrong in our idea of those things; but it has been my conviction, and I have not yet escaped from it, that the fundamentals of economics should be among those things. It seems to me that every man who lays claim to literary culture should know at least the fundamental principles of this science.